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April 17, 1993

Secretary
Federal Communications Commission
1919 M Street
Room 222
Washington, D.C. 20554

Subject: ET Docket No. 92-298 AM Stereo Standard

Dear Madam Secretary:

It is my understanding that the Commission will make it necessary within approximately a years time for all AM stereo radio stations to cease broadcasting any form of AM stereo other than Motorola C-QUAM.

I am a broadcast field engineer and have been working in the

As the signal grew in strength, the magnitude of separation was constant, the noise diminished to nearly zero, and the sound quality was excellent. The signal had no need of a pilot tone, and was in fact pilotless.

Last night (April 16th) I listened for about at hour while out doing errands in my wifes' minivan to a C-QUAM stereo signal, transmitted on an interference free channel from station WLKW in fairly near by Providence Rhode Island. The signal was mostly moderate in strength but did vary to weak as I drove. It never disappeared. (The minivan is equipped with a stock radio that came with the Chrysler Corporation vehicle. On AM it can receive stereo signals, but only Motorola C-QUAM stereo signals.) During this hour my observations were as follows: When the signal was at a weak level, it was accompanied by noise, and the receiver switched to mono. Sometimes it took a while for the receiver to go into stereo as the signal (and its pilot) got stronger. Sometimes it would switch back and forth. When in stereo, the stereo was fair. As the signal grew in strength, the stereo effect stayed the same, the noise diminished to nearly zero, and the sound quality was good. (Curious, I spot checked the signal strength when I got home. It varied from 0.7 millivolts/meter to 1.3 millivolts/meter. The field meter is an FIM-41 calibrated by Potomac Instruments, 2/93.)

To place a frame of relativity on the above numbers, it is not uncommon for radio stations' sales staffs to "sell" as far distant as their 0.5 MV/meter measured signal contour in sales pitches to clients.

Transmitting the stereo signals:

In around 1984 I had the opportunity to install what was then probably the third C-QUAM type exciter in the greater metro Boston area. The exciter and transmitter manufacturers staff supervised on-site. The transmitter was a brand new 5KW AM, with a state-of-the art broad banded three tower directional antenna. The station had been, prior to the exciter installation, operating in mono at competitive modulation levels. That is to say average 97% negative and average 120% positive modulation.

These are reasonable and legal magnitudes of modulation owners have found will yield reliable, optimum coverage. Modern mono AM stations can obtain this performance relatively easily. Levels less than this reduce coverage, and are avoided by knowledgeable operators.

After installation of the C-QUAM system, nothing we could do would get the modulation levels above 90% negative and 90% positive

Household and portable AM stereo radio availability in the United States has been virtually nil. This is not my perception of a free enterprise system.

Successful products are well engineered:

Presently the United States is working hard to come back from a general product quality hiatus and subsequent loss in world market. Reasons are manifold. We are finding out that the best performing, highest quality products do not necessarily carry the highest prices, but do definitely yield more sales, profit, and growth.

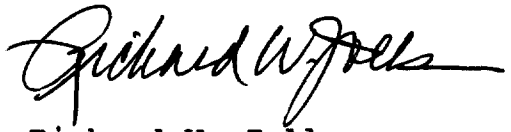
Listener response to the AM marketplace has fallen dramatically in recent years. The receivers commonly available receive FM better than AM, and FM stereo better than AM stereo, and the public knows it. If a product is quality deficient, it will eventually fail. The AM technical product is quality deficient, and it is failing.

The Choice of an AM Stereo Standard:

The free marketplace cannot set standards when it is not at liberty to choose. Associations and manufacturers cannot make unbiased, intelligent engineering decisions when they are also subjected to the pressures of politics and the lure of profits unrelated to sales due to true product demand. Standards for the AM stereo system in the United States of America must be set by an independent, uninterested third party. Such an institution is already in place. The National Institute of Standards and Technology should set the AM stereo standard.

In spite of present bandwidth limitations and the characteristics of the AM band that have always existed (ie natural and man made noise), AM stereo radio coverage can equal AM mono coverage, and separation and distortion can more closely approach those of FM. It is a matter of approaching a problem with the optimum theoretical tool to begin with, and then applying good engineering practice.

Respectfully yours,



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